Restoring and Naturalizing Cheesecake Brook

Public Meeting

Watch on Youtube
https://www.youtube.com/watch?v=eyyKBXTBZVQ&feature=youtu.be

Current fieldstone wall of Cheesecake Brook

Public Meeting
Tuesday, October 27, 2020
7-8:30 pm via Zoom

Horsley Witten Group
Sustainable Environmental Solutions

Charles River Watershed Association

Charles River Watershed Association

Charles River Watershed Association

CRWA's mission is to protect, restore, and enhance the Charles River and its watershed through science, advocacy, and law.

- Founded in 1965 by concerned citizens
- One of the oldest watershed associations in the country
- Work with EPA, state agencies, and 35 watershed municipalities
- Interdisciplinary staff
- Program Areas:
  - River Science
  - Blue Cities Initiative
  - Climate Change Adaptation
  - Law, Advocacy, and Policy





Agenda

Charles River Watershed Association

7:00 - 7:10	Gathering and Introduction
7:10 - 7:30	Project Motivation and Vision
7:30 - 8:00	Stream Restoration Ideas
8:00 - 8:15	Next Steps
8:15 - 8:30	Questions and Discussion

Volunteers sampling bugs in Cheesecake Brook

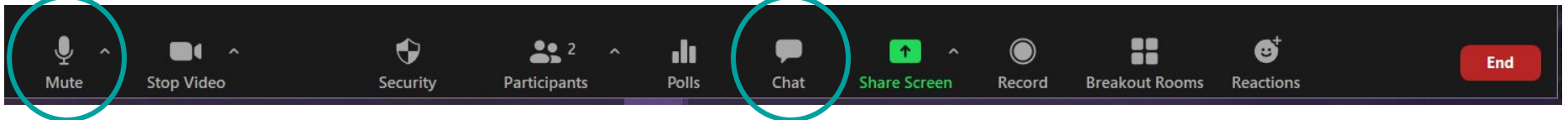
Meeting Norms

Charles River Watershed Association

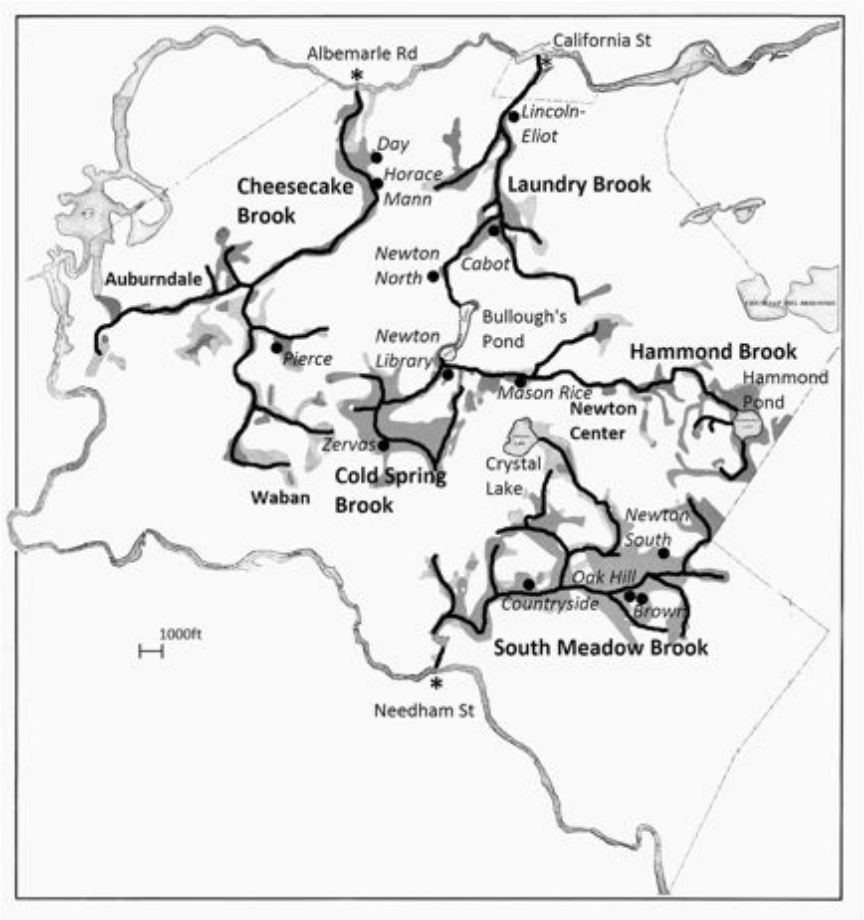
- Please keep yourself muted during the presentation
- Please use the Chat Box to ask questions during the presentation
  - We will have time at the end to answer questions
- **<u>During the presentation, there will be short surveys (Google Forms) to complete, with the link shared in the Chat Box</u>**
- If there are any questions, please email lkumpf@crwa.org

Survey Part 1

Cheesecake Brook in the fall



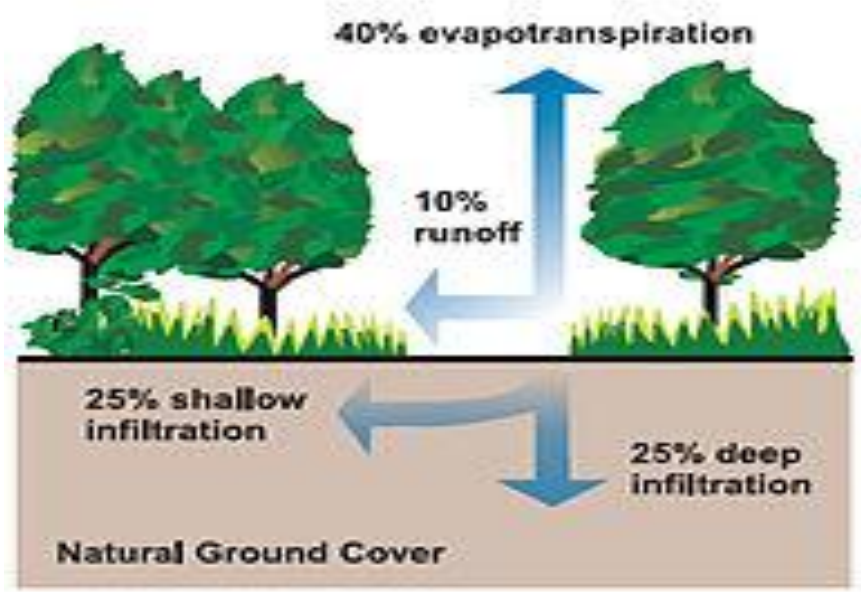
Historic Newton: Watery!



Implications of Built Environment

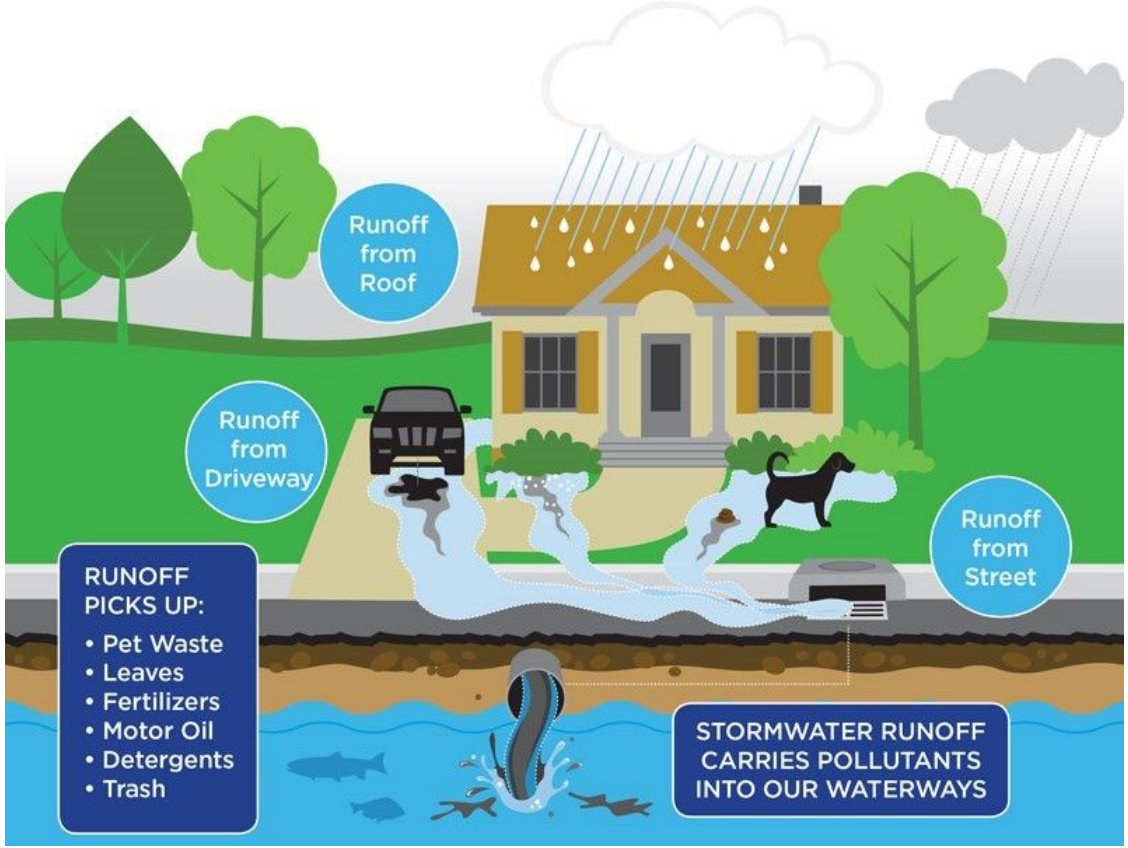
- Restoring natural hydrology to urban environments through green infrastructure

Soft Ground, Vegetation



Hard Ground, No Vegetation

Biggest Threat to Charles River: Stormwater



Project Background

- Cheesecake Brook impaired for bacteria, phosphorus, dissolved oxygen, algae
- Newton Stormwater Infrastructure Improvement Plan: stream improvements to Cheesecake Brook among priority projects
- Cheesecake Brook Greenway Master Plan Report developed in 2009

City of Newton

Stormwater Infrastructure Improvement Plan

Supporting Documentation

February 2015

Project Background

1. Monitoring & Data Collection

- Compile & analyze water quality and habitat data for Cheesecake Brook
- Conduct stream survey of accessible portions of Brook

2. Subwatershed Analysis

- Review previous design documents & City reports and plans
- GIS mapping of land use, stormwater infrastructure, impervious cover, open spaces, etc.
- Review restoration project from Fuller Brook, Wellesley
- Produce existing conditions memo

3. Community Design Charettes

- Engage with local community groups and stakeholders
- Hold a public meeting/charette
- Use an online survey
- Hold drop in/ open house input session

4. Conceptual Design

- Hire design and engineering firm to produce conceptual design for downstream section of Cheesecake Brook

Newton Context

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Environmental Conditions

- Drought
- Losing Tree Canopy
- Extreme Storms
- 55% Impervious Cover
- Stormwater Fee; commitment to investing in Stormwater infrastructure
- MS4 Permit obligations
- Increasing development--opportunity for stormwater investments

Survey Part 2

Area Context

- Horace Mann to preschool
- FA Day
- Gath Pool
- Albemarle/Murphy
- Fessenden School
- Trying to make more Bike/Ped Friendly

Disclaimer

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- Very early stages
- Offering a vision
- Could take place over many years
- Good to have a conceptual vision
- **Idea includes taking out a section of road, but is possible to do interventions without that**

Survey Part 3

Benefits of Stream Restoration

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Co-Benefits Opportunities						
	Benefits					
BMPs	Flood Mitigation	Water Quality	Erosion Control	Aesthetics	Habitat Value	Educational Value
Existing Conditions						
Rock Vane						
Dry Swale						
Outfall Stabilization						
Bioretention						
Stream Sinuosity						
Bank Restoration						

None/Low Medium High

Bank Restoration & Stream Sinuosity

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Stormwater Flooding Reduction

Examples of Cheesecake Brook in Flooded and Typical Condition

Bank Restoration & Stream Sinuosity

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Examples of Stream Sinuosity at Fuller Brook Park Wellesley, MA

Bank Restoration & Stream Sinuosity

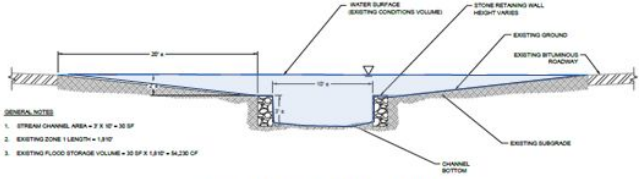
Charles River Watershed Association

Examples of Slope Stabilization and Bank Restoration at Fuller Brook Park Wellesley, MA

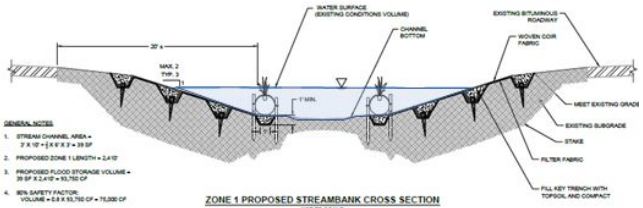
Bank Restoration & Stream Sinuosity

Charles River Watershed Association

Stormwater Flooding Reduction



ZONE 1 EXISTING STREAMBANK CROSS SECTION
NOT TO SCALE



ZONE 1 PROPOSED STREAMBANK CROSS SECTION
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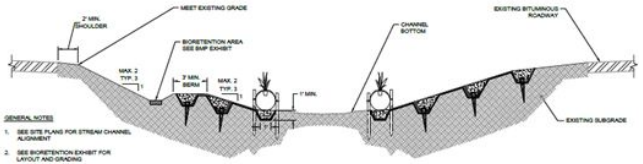

ZONE 1 PROPOSED STREAMBANK WITH BIORETENTION CROSS SECTION
NOT TO SCALE

Bank Restoration & Stream Sinuosity

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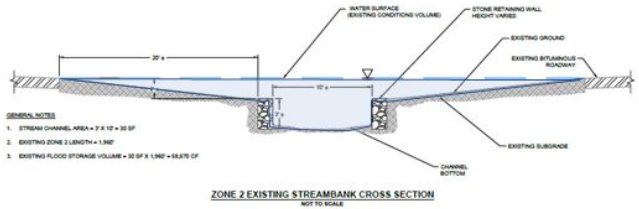
Stormwater Flooding Reduction



ZONE 2 EXISTING STREAMBANK CROSS SECTION
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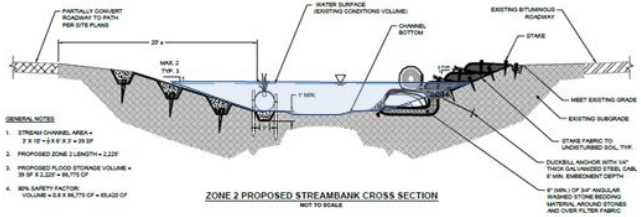

ZONE 2 PROPOSED STREAMBANK CROSS SECTION
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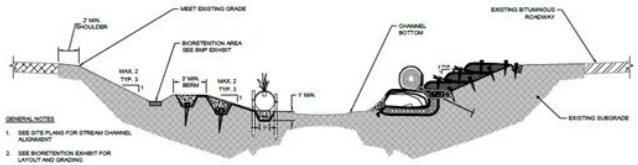

ZONE 2 PROPOSED STREAMBANK WITH BIORETENTION CROSS SECTION
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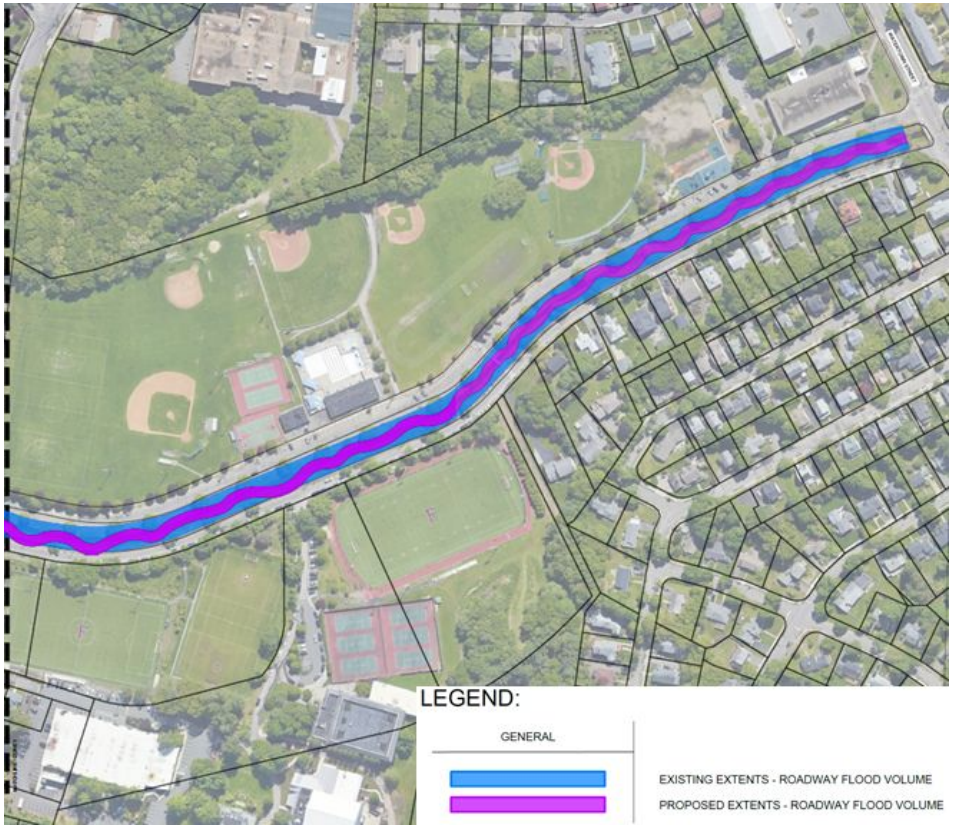

Bioretention

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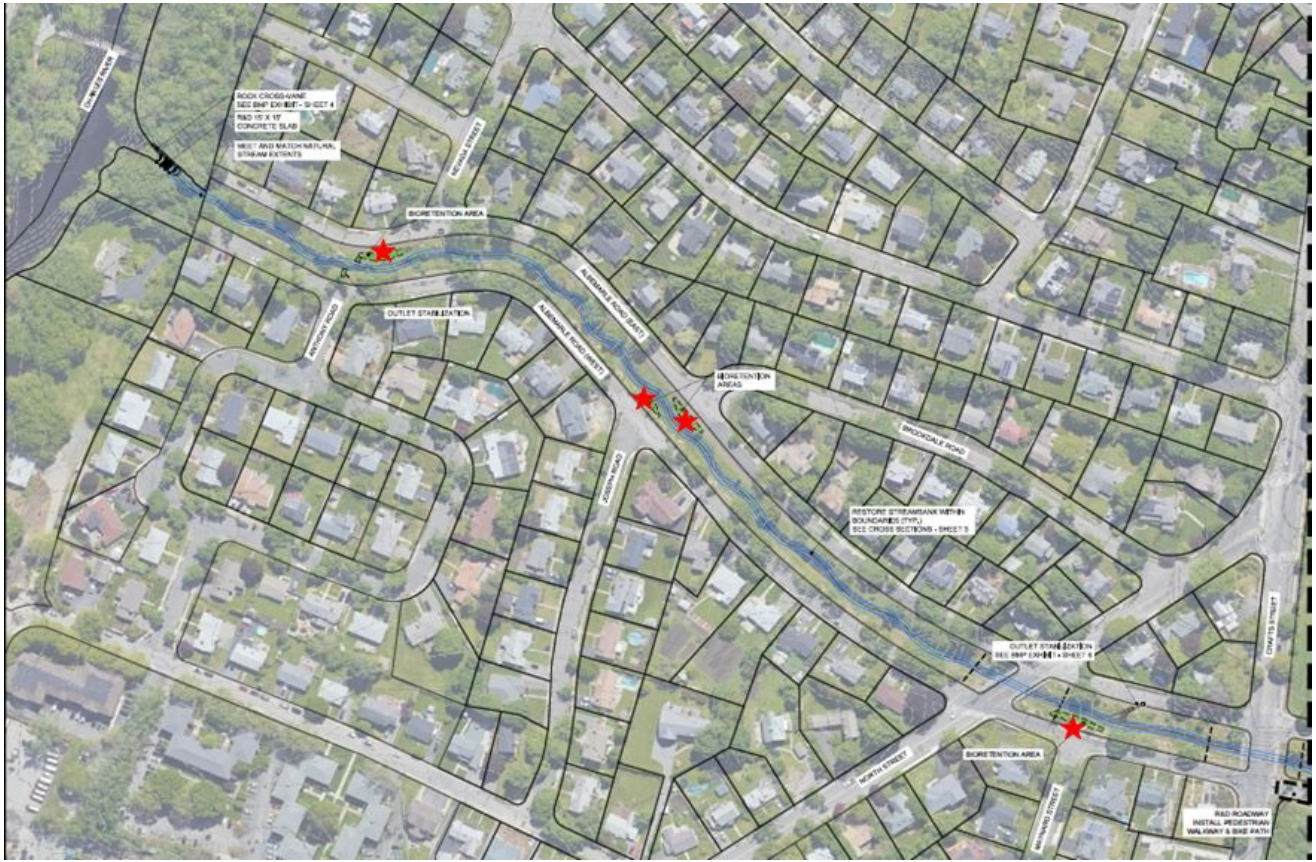

Bioretention

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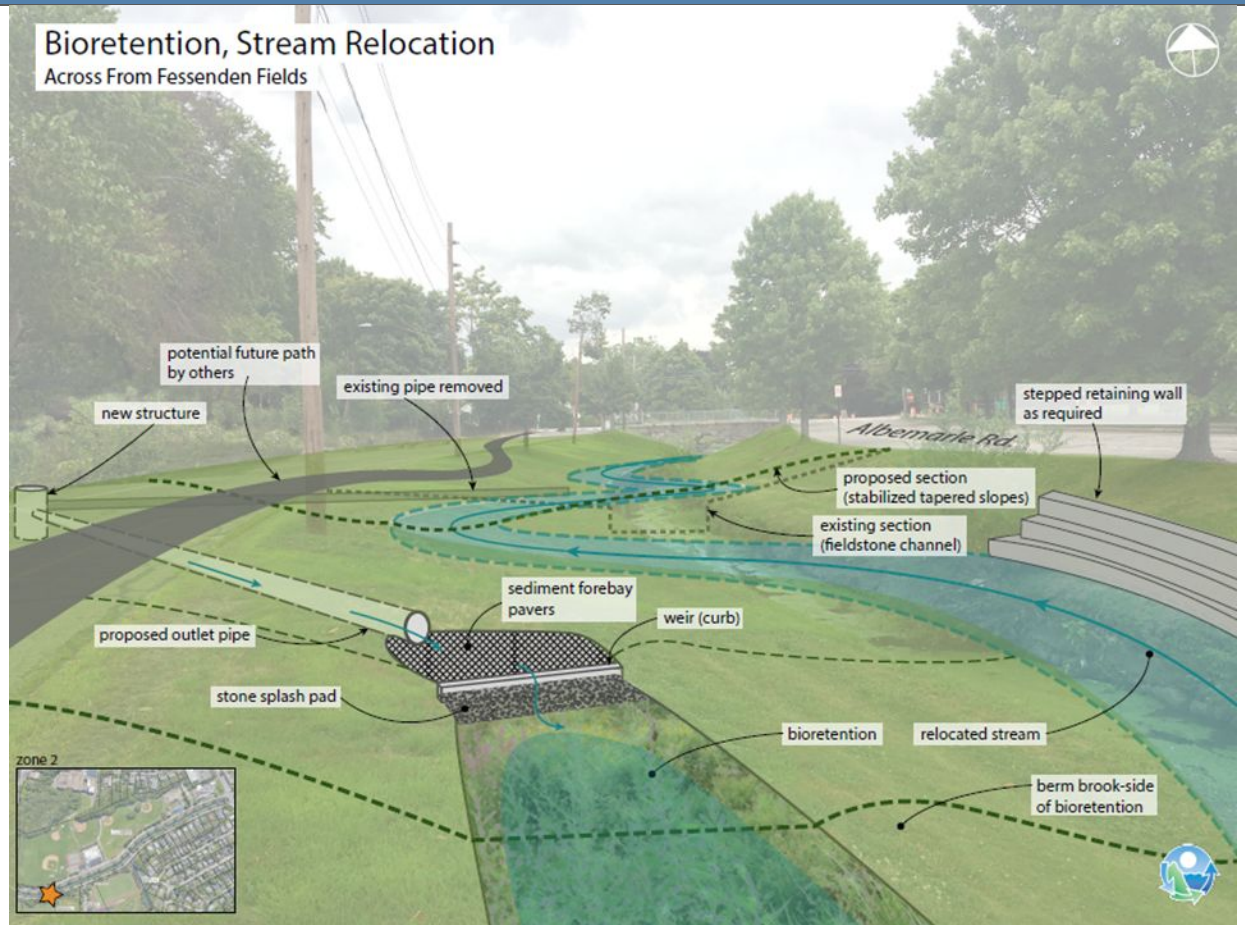
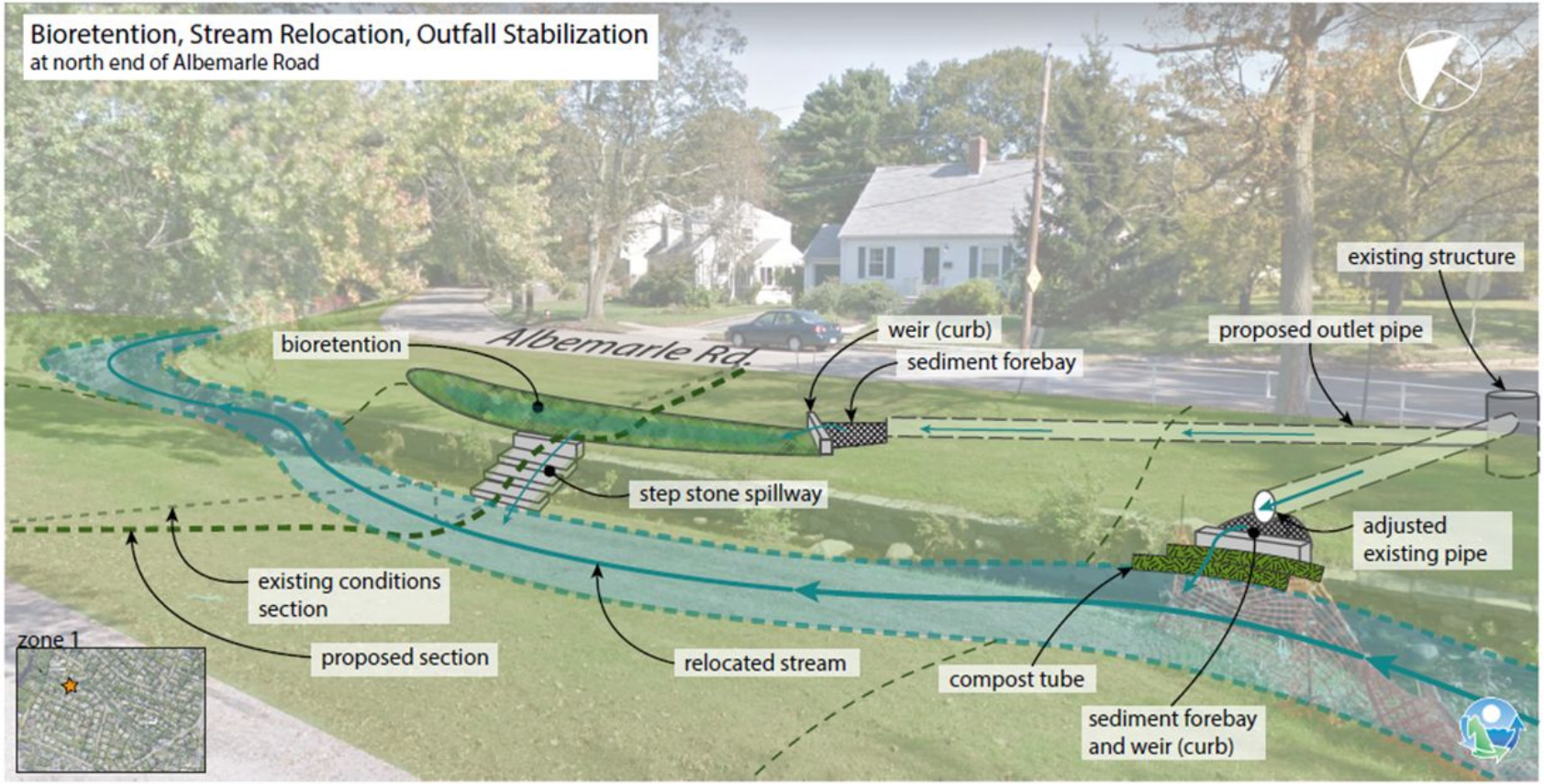


Bioretention

Charles River Watershed Association



Bioretention

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Example Bioretention from Irving Middle School Boston, MA

Example Bioretention from Fuller Brook Park Wellesley, MA

Survey Part 3

Outfall Stabilization

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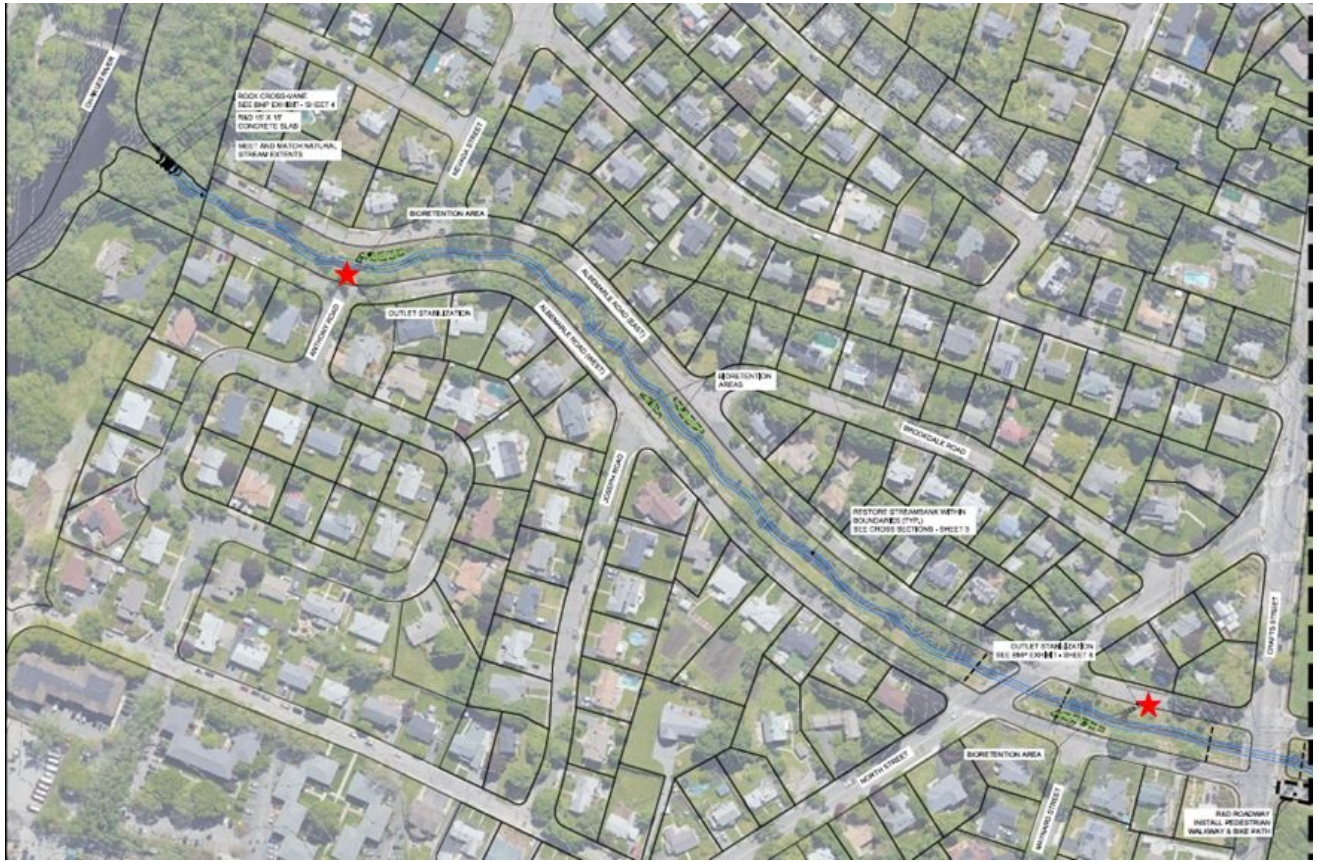
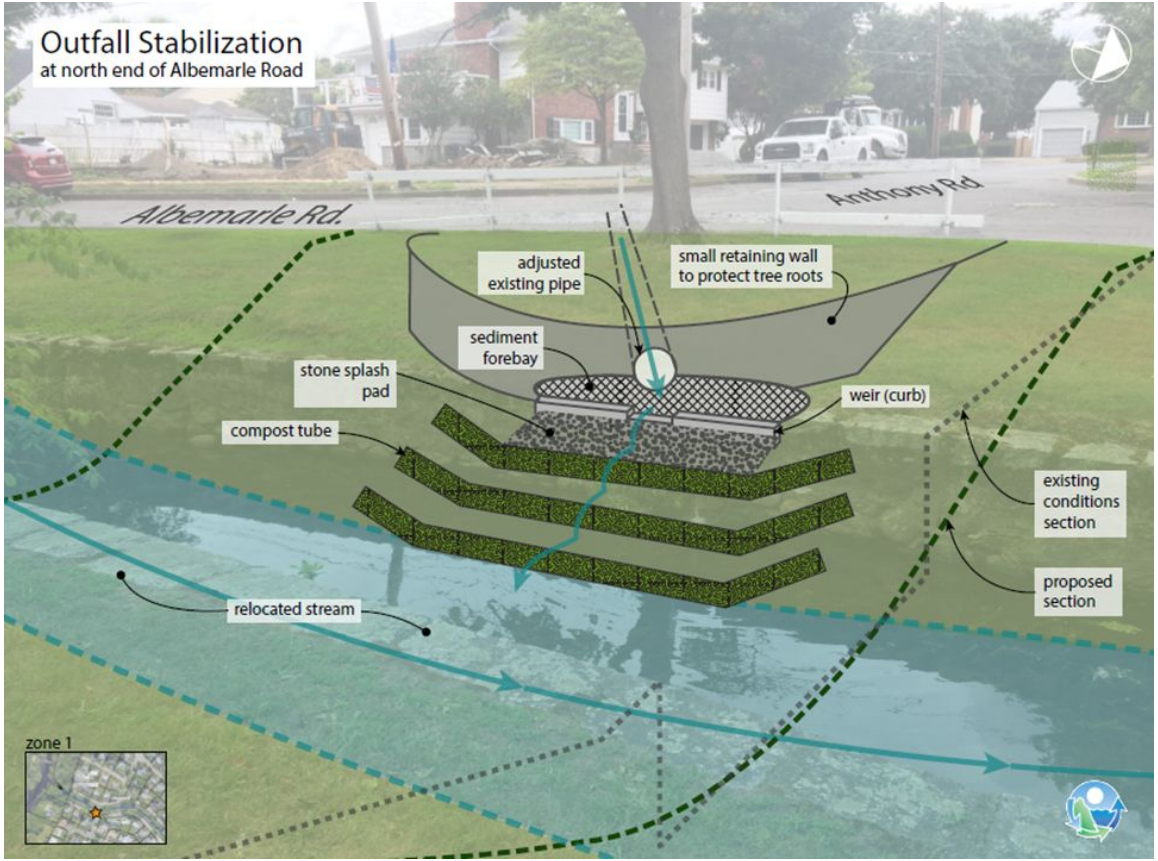


Outfall Stabilization

Charles River Watershed Association

Outfall Stabilization

Charles River Watershed Association



Outfall Stabilization

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Example Splash Pad Material at Common St. in Watertown, MA

Example Slope Stabilization at Fuller Brook Park Wellesley, MA

Bioretention

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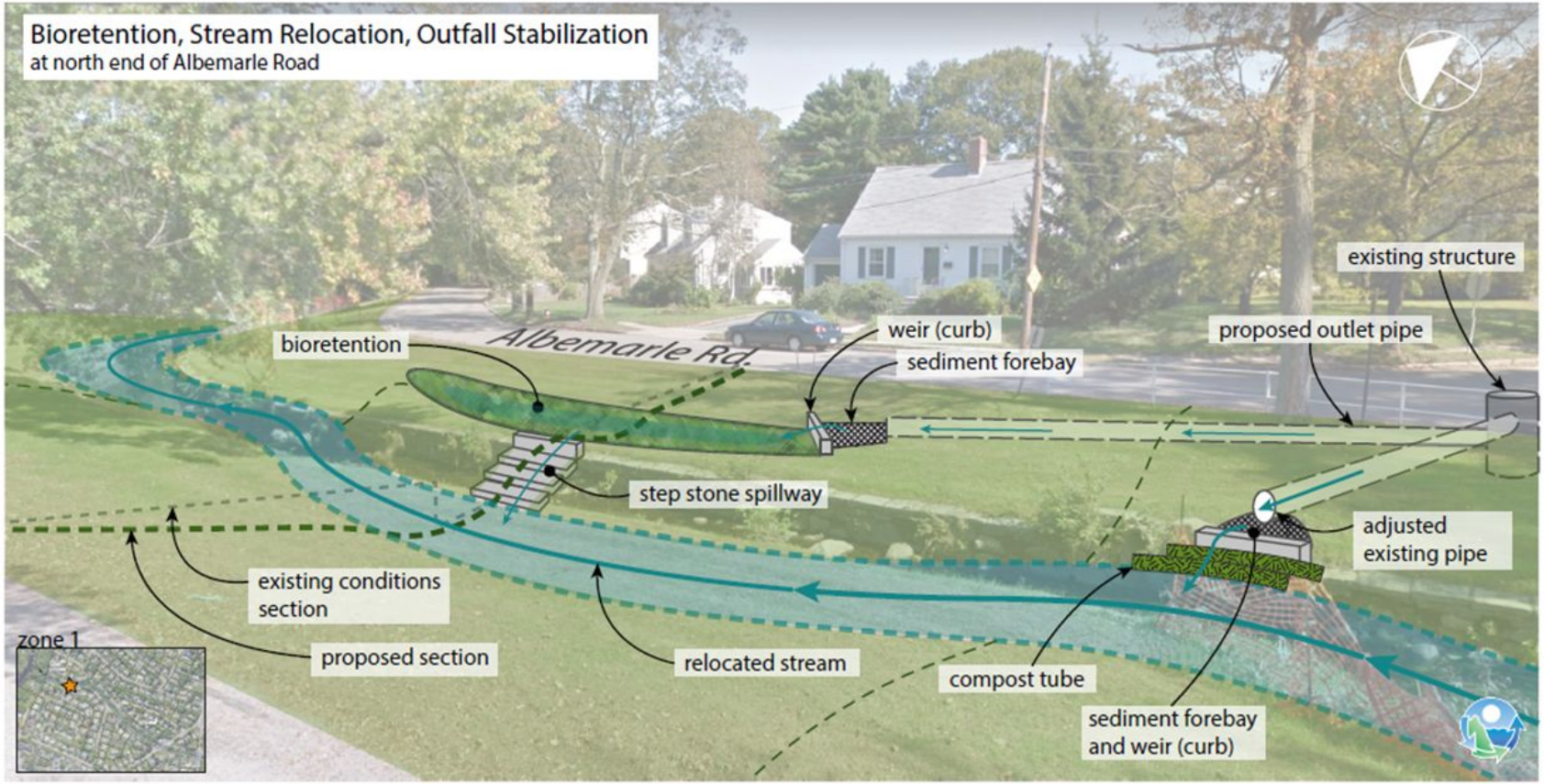

Rock Vane

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Rock Vane

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Existing Sloped Concrete Slab at End of Cheesecake Brook

Example Rock Vane from Fuller Brook Park Wellesley, MA

Rock Vane

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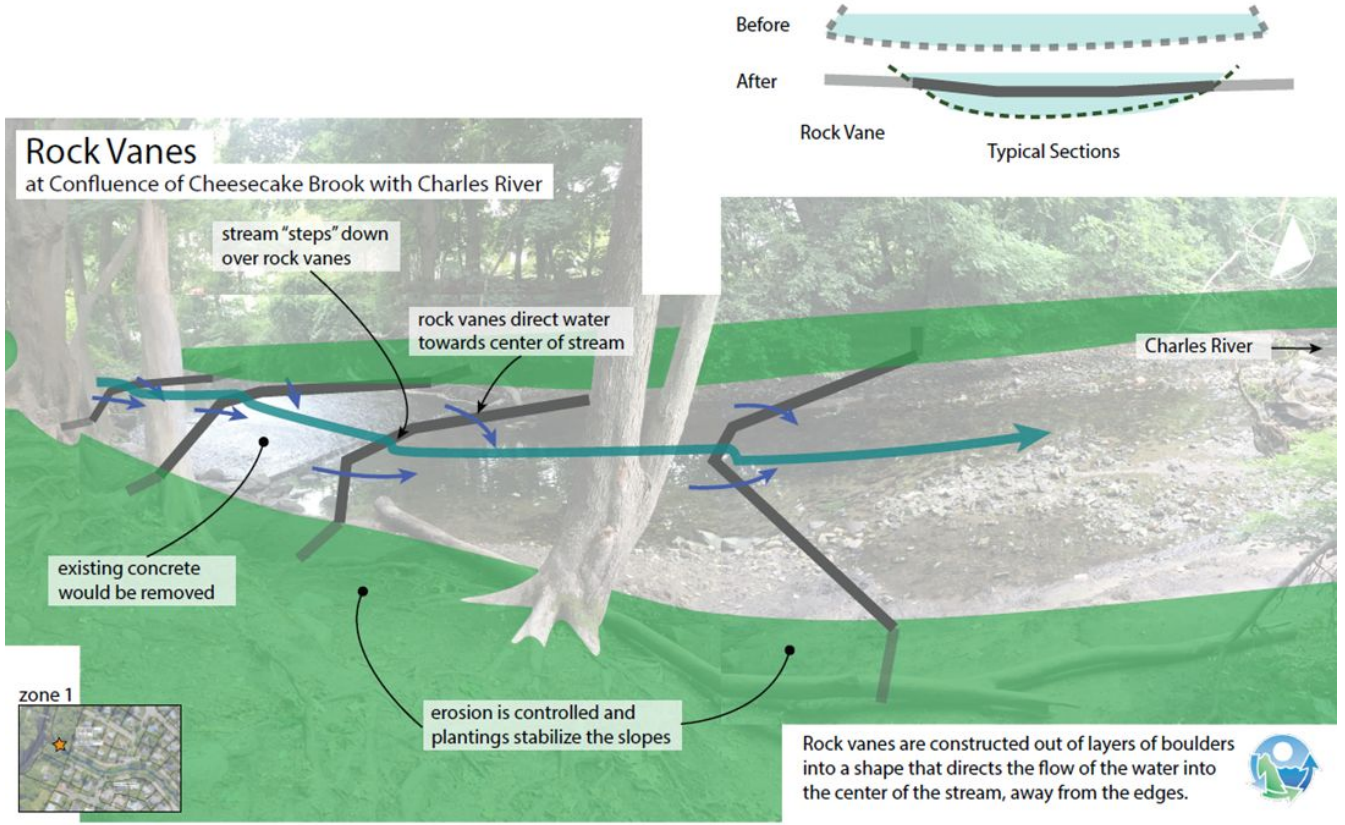

Benefits Matrix

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Co-Benefits Opportunities						
	Benefits					
BMPs	Flood Mitigation	Water Quality	Erosion Control	Aesthetics	Habitat Value	Educational Value
Existing Conditions						
Rock Vane						
Dry Swale						
Outfall Stabilization						
Bioretention						
Stream Sinuosity						
Bank Restoration						

None/Low Medium High

Survey Part 4

Cheesecake Brook now … where is this??

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Upstream Opportunities

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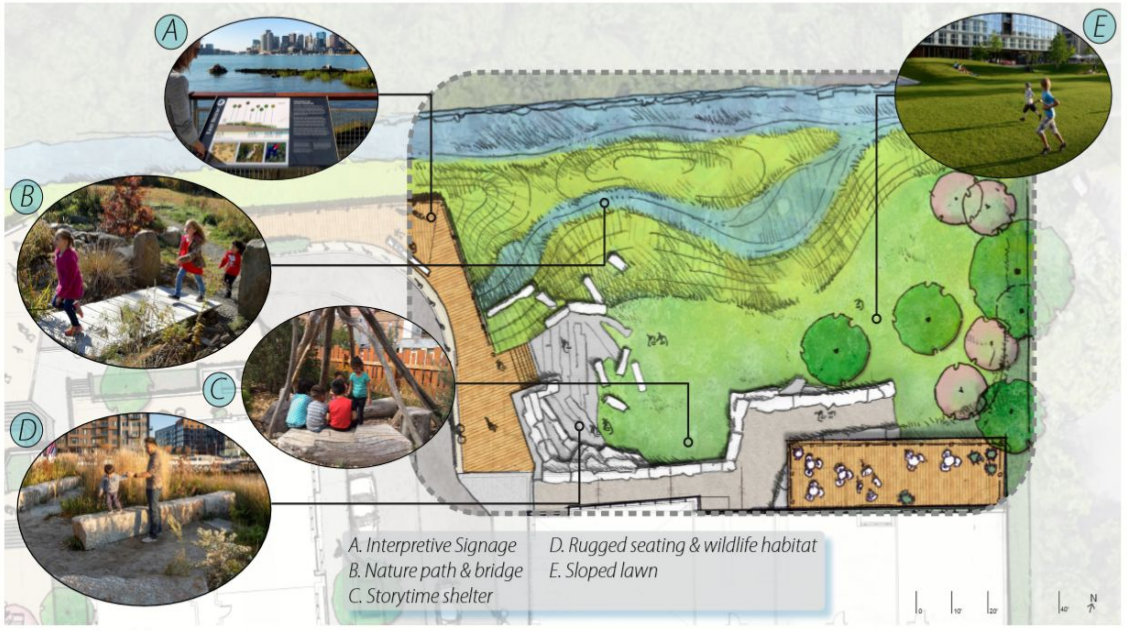
Dunstan East Development

Rendering of restoration & recreation along Cheesecake Brook

Vision of stream restoration, flood storage area, and public open space



Proposed Public Open Space Vision

HALVORSON Tighe & Bond studio MARK DEVELOPMENT

Next Steps

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Survey Part 5

Thank you!

Charles River Watershed Association

Questions?

email Lisa Kumpf at
lkumpf@crwa.org

Stay Connected with CRWA!

Email: charles@crwa.org

Newsletter:
https://www.crwa.org/river-current.html

Follow Us:

Survey Results

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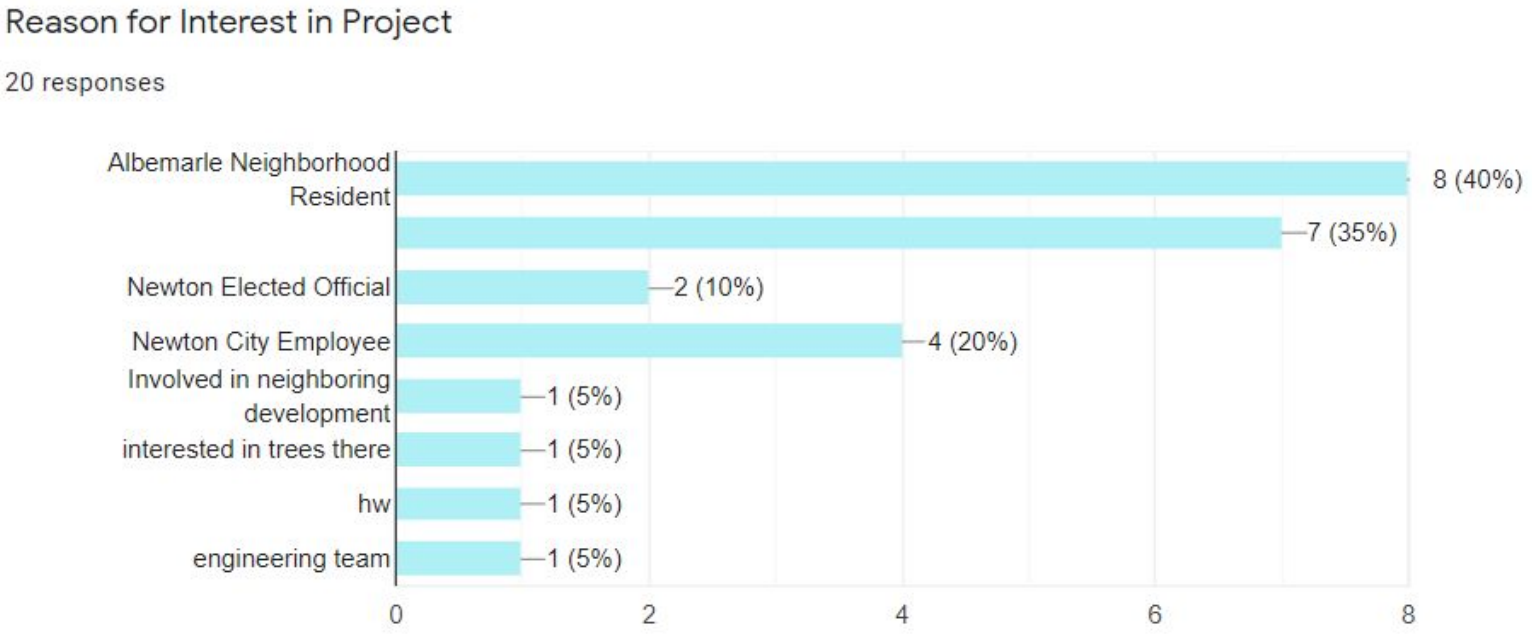
Part 1 - Interest in Project

- 20 people participated in the survey questions



Survey Results

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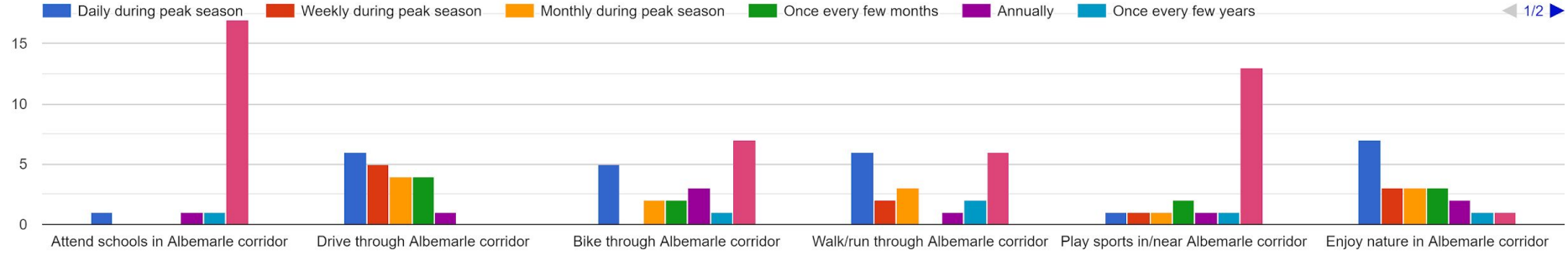
Part 2 - Albemarle Corridor

The Albemarle corridor has many important uses and interests. Please indicate which of the following you utilize, and how often, answering for yourself and/or your family.



Survey Results

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Part 3 - Potential Road Removal

An early part of our vision is to eliminate the portion of Albemarle Road outlined in the picture below, in order to maximize space for stream restoration. If the road portion was not eliminated, restoration could still be completed, at a smaller scope. What are your initial reactions to this proposal?

- [ ] I am all for eliminating the road for maximum stream restoration
- [ ] I am all for eliminating the road, as long as bike and pedestrian access was provided
- [ ] I am interested in the idea, but would be worried about traffic and/or parking issues
- [ ] I am interested in the idea, but would be interested in seeing other alternatives
- [ ] I am opposed to removing this portion of road in any scenario
- [ ] I don't know enough about these topics to have an opinion
- [ ] Other...

Survey Results

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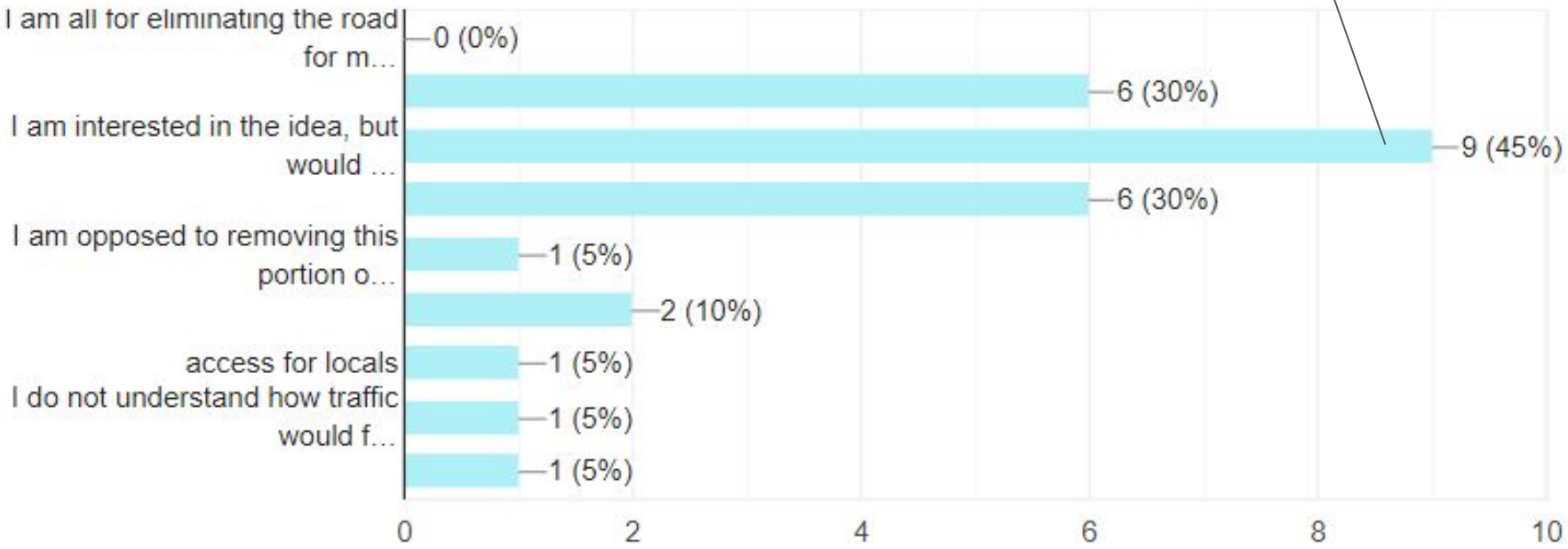
Part 3 - Potential Road Removal

I am interested in the idea, but would be worried about traffic and/or parking issues



Survey Results

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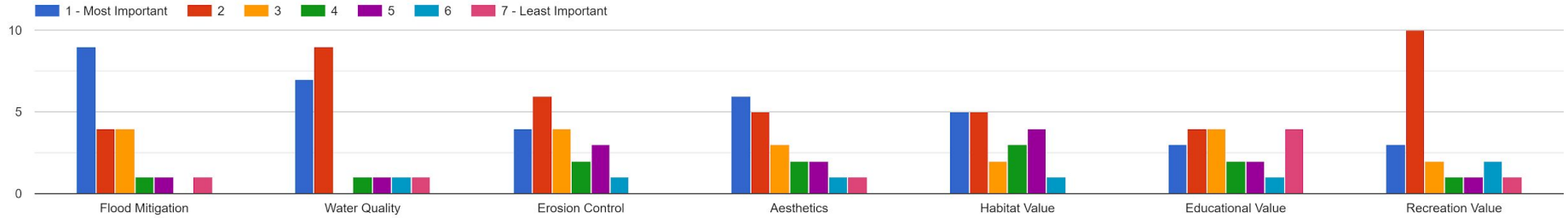
Part 4 - Stream Restoration Benefits

Please rank the following benefits of stream restoration in Cheesecake Brook in order of importance to you



Survey Results

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Part 5 - Initial Reaction to Project

After seeing and understanding the vision of this project, how would you rate your level of support of the project as a whole?

I am fully in support of the vision of this project

I would like to see more engagement with important stakeholders in the next steps of this process

I support some parts of the project, but am unsure about others

I do not think this project is worth pursuing into the future